

May 1, 2006

PG&E Letter DCL-06-062

U.S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, DC 20555-0001

Docket No. 50-323, OL-DPR-82
Diablo Canyon Unit 2
Licensee Event Report 2-2006-001-00
10 CFR 21 Notification of a Defective Residual Heat Removal Check Valve

Dear Commissioners and Staff:

In accordance with 10 CFR 21.21(d)(3)(ii), Pacific Gas and Electric Company is submitting the enclosed licensee event report regarding the receipt of a defective residual heat removal check valve, a safety-related component.

This condition was initially reported via Event Notification Number 42459 on March 31, 2006.

This event was not considered risk significant and did not adversely affect the health and safety of the public.

Sincerely,

James R. Becker

ddm/2246/A0661051

Enclosure

cc/enc: Terry W. Jackson, NRC Senior Resident
Bruce S. Mallett, NRC Region IV
Alan B. Wang, NRC Project Manager
Diablo Distribution
INPO

NRC FORM 366 (6-2004)		U.S. NUCLEAR REGULATORY COMMISSION		APPROVED BY OMB: NO. 3150-0104 Estimated burden per response to comply with this mandatory collection request: 50 hours. Reported lessons learned are incorporated into the licensing process and fed back to industry. Send comments regarding burden estimate to the Records and FOIA/Privacy Service Branch (T-5 F52), U.S. Nuclear Regulatory Commission, Washington, DC 20555-0001, or by internet e-mail to infocollects@nrc.gov, and to the Desk Officer, Office of Information and Regulatory Affairs, NEOB-10202, (3150-0104), Office of Management and Budget, Washington, DC 20503. If a means used to impose an information collection does not display a currently valid OMB control number, the NRC may not conduct or sponsor, and a person is not required to respond to, the information collection.		EXPIRES: 06/30/2007					
<h2 style="margin: 0;">LICENSEE EVENT REPORT (LER)</h2> <p style="margin: 5px 0 0 40px;">(See reverse for required number of digits/characters for each block)</p>											
1. FACILITY NAME Diablo Canyon Unit 2					2. DOCKET NUMBER 05000323		3. PAGE 1 OF 4				
4. TITLE 10 CFR 21 Notification of a Defective Residual Heat Removal Check Valve											
5. EVENT DATE			6. LER NUMBER			7. REPORT DATE			8. OTHER FACILITIES INVOLVED		
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REV NO.	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER	
03	31	2006	2006	- 001 -	00	05	01	2006	FACILITY NAME	DOCKET NUMBER	
										05000	
										05000	
9. OPERATING MODE NA		11. THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR§: <i>(Check all that apply)</i>									
10. POWER LEVEL NA		<input type="checkbox"/> 20.2201(b) <input type="checkbox"/> 20.2203(a)(3)(i) <input type="checkbox"/> 50.73(a)(2)(i)(C) <input type="checkbox"/> 50.73(a)(2)(vii)									
		<input type="checkbox"/> 20.2201(d) <input type="checkbox"/> 20.2203(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(viii)(A)									
		<input type="checkbox"/> 20.2203(a)(1) <input type="checkbox"/> 20.2203(a)(4) <input type="checkbox"/> 50.73(a)(2)(ii)(B) <input type="checkbox"/> 50.73(a)(2)(viii)(B)									
		<input type="checkbox"/> 20.2203(a)(2)(i) <input type="checkbox"/> 50.36(c)(1)(i)(A) <input type="checkbox"/> 50.73(a)(2)(iii) <input type="checkbox"/> 50.73(a)(2)(ix)(A)									
		<input type="checkbox"/> 20.2203(a)(2)(ii) <input type="checkbox"/> 50.36(c)(1)(ii)(A) <input type="checkbox"/> 50.73(a)(2)(iv)(A) <input type="checkbox"/> 50.73(a)(2)(x)									
		<input type="checkbox"/> 20.2203(a)(2)(iii) <input type="checkbox"/> 50.36(c)(2) <input type="checkbox"/> 50.73(a)(2)(v)(A) <input type="checkbox"/> 73.71(a)(4)									
		<input type="checkbox"/> 20.2203(a)(2)(iv) <input type="checkbox"/> 50.46(a)(3)(ii) <input type="checkbox"/> 50.73(a)(2)(v)(B) <input type="checkbox"/> 73.71(a)(5)									
		<input type="checkbox"/> 20.2203(a)(2)(v) <input type="checkbox"/> 50.73(a)(2)(i)(A) <input type="checkbox"/> 50.73(a)(2)(v)(C) <input checked="" type="checkbox"/> OTHER									
		<input type="checkbox"/> 20.2203(a)(2)(vi) <input type="checkbox"/> 50.73(a)(2)(i)(B) <input type="checkbox"/> 50.73(a)(2)(v)(D)									
Specify in Abstract below or in NRC Form 366A											
12. LICENSEE CONTACT FOR THIS LER											
FACILITY NAME Lawrence M. Parker – Senior Regulatory Services Engineer									TELEPHONE NUMBER (Include Area Code) (805) 545-3386		
13. COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT											
CAUSE	SYSTEM	COMPONENT	MANU- FACTURER	REPORTABLE TO EPIX	CAUSE	SYSTEM	COMPONENT	MANU- FACTURER	REPORTABLE TO EPIX		
B	BP	CKV	350F	Yes	D	BP	CKV	350F	Yes		
14. SUPPLEMENTAL REPORT EXPECTED						15. EXPECTED SUBMISSION DATE			MONTH	DAY	YEAR
<input type="checkbox"/> YES <i>(If yes, complete 15. EXPECTED SUBMISSION DATE)</i>						<input checked="" type="checkbox"/> NO					
ABSTRACT <i>(Limit to 1400 spaces, i.e., approximately 15 single-spaced typewritten lines)</i>											
<p>On March 31, 2006, at approximately 1150 PST, Pacific Gas and Electric Company (PG&E) Vice President - Diablo Canyon Operations and Station Director, concurred with a quality review determination that a significant defect potentially adverse to safety was identified in a component received from Flowserve, Flow Control Division, of Raleigh, North Carolina. The component is an 8-inch tilting disk check valve, Vendor Assembly Drawing W9023267, that was received for use in the Residual Heat Removal (RHR) System, but not yet installed.</p> <p>On March 31, 2006, at 1301 PST, PG&E notified the NRC in accordance with 10 CFR 21.21(d)(1) via Event Notification Number 42459.</p> <p>PG&E repaired the valve in accordance with vendor instructions, following which it was successfully bench tested. The valve is scheduled for installation during the Unit 2 Thirteenth Refueling Outage.</p> <p>PG&E does not know of similar installations at other facilities that are potentially affected by the identified defect, and is providing this report in accordance with 10 CFR 21.21(d)(3)(ii).</p>											

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)								LER NUMBER (6)						PAGE (3)		
									YEAR	SEQUENTIAL NUMBER				REVISION NUMBER			
Diablo Canyon Unit 2	0	5	0	0	0	3	2	3	2006	-	0	0	1	-	0	1	2 OF 4

TEXT

I. Plant Conditions

Unit 2 did not operate in any plant modes with the described defect installed.

II. Description of Problem

A. Background

On June 2, 2005, Pacific Gas and Electric Company (PG&E) initiated purchase of an 8-inch tilting disk, stainless steel check valve [CKV], to be built for installation in the Unit 2 Residual Heat Removal (RHR)[BP] System. The check valves in these locations were initially installed in response to NRC Bulletin 88-04, "Potential Safety Related Pump Loss."

The valve was manufactured by Flowserve, Flow Control Division, of Raleigh, North Carolina, in accordance with Vendor Assembly Drawing W9023267, and ASME Section III, Subsection NC, 1989 Edition. Purchase Order No. 125492 was identified as 10 CFR 21 applicable.

B. Event Description

On March 2, 2006, during post-receipt bench testing, PG&E identified incorrect disc dimensions that caused the disc to stick in the valve bonnet, i.e., in the open position. This defect could have prevented the valve from performing its intended safety function of closing to prevent pump-to-pump interaction when both RHR pumps are running.

On March 8, 2006, PG&E notified Flowserve of the defect via Supplier Audit Finding Report No. 060670010, and requested corrective actions be taken.

On March 13, 2006, Flowserve concluded that the defect was caused by disc design error and test procedure error.

On March 16, 2006, Flowserve initiated Quality Problem Corrective Action Plan No. 169, that concluded a 10 CFR 21 evaluation was not required.

On March 31, 2006, the PG&E Vice President - Diablo Canyon Operations and Station Director, concurred with a quality review determination that a significant defect potentially adverse to safety had been identified in a component received for use in a safety-related application for Unit 2.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)									LER NUMBER (6)							PAGE (3)		
										YEAR	SEQUENTIAL NUMBER					REVISION NUMBER			
Diablo Canyon Unit 2	0	5	0	0	0	3	2	3	2006	-	0	0	1	-	0	1	3	OF	4

TEXT

On March 31, 2006, at 1301 PST, PG&E notified the NRC in accordance with 10 CFR 21.21(d)(1) via Event Notification Number 42459.

C. Inoperable Structures, Systems, or Components that Contributed to the Event

None.

D. Other Systems or Secondary Functions Affected

None.

E. Method of Discovery

This condition was identified during post-receipt bench testing.

F. Operator Actions

None.

G. Safety System Responses

None.

III. Cause of the Problem

A. Immediate Cause

The defect identified involved incorrect valve disc dimensions that caused the disc to stick in the valve bonnet, in the open position.

B. Root Cause

The vendor concluded that the cause of the incorrect valve disc dimensions was design error.

C. Contributory Cause

The vendor's test procedure did not test the valve with the bonnet installed.

LICENSEE EVENT REPORT (LER) TEXT CONTINUATION

FACILITY NAME (1)	DOCKET NUMBER (2)								LER NUMBER (6)						PAGE (3)		
									YEAR	SEQUENTIAL NUMBER				REVISION NUMBER			
Diablo Canyon Unit 2	0	5	0	0	0	3	2	3	2006	-	0	0	1	-	0	1	4 OF 4

TEXT

IV. Assessment of Safety Consequences

The identified defect could have prevented the valve from performing its intended safety function of closing to prevent pump-to-pump interaction when both RHR pumps are running. Failure of this check valve, had it been installed, could have resulted in the loss of one RHR train on Unit 2, which could impact the ability to shut down the reactor and maintain it in a safe shutdown condition.

The defect was identified during bench testing prior to installation, thus, the defect was prevented from being placed in service. If the defect had not been previously identified, PG&E's Inservice Testing Program requires that the valve be full flow and reverse flow verified prior to declaring the system operable.

Therefore, this event was of very low risk significance, was not a Safety System Functional Failure, and did not adversely affect the health and safety of the public.

V. Corrective Actions

A. Immediate Actions

1. Bench testing activities were stopped, a problem report was initiated, and the vendor notified.
2. Supplier Audit Finding Report No. 060670010 was issued to Flowserve.

B. Corrective Actions

PG&E repaired the valve in accordance with vendor instructions.

VI. Additional Information

A. Failed Component: 8-inch tilting disk stainless steel check valve.

Manufacturer: Flowserve; PG&E Purchase Order No. 125492
Flow Control Division, Raleigh, North Carolina

Reference: Vendor Assembly Drawing W9023267, Part Serial No. AY777
ASME Section III, Subsection NC, 1989 Edition

B. Previous Similar Events

None.

OUTGOING CORRESPONDENCE SCREEN

(Remove prior to NRC submittal)

Document: PG&E Letter DCL-06-062

Subject: 10 CFR 21 Notification of a Defective Residual Heat Removal Check Valve

File Location S:\RS\RA\LER\2006\DCL06062.DOC

FSAR Update Review

Utilizing the guidance in XI3.ID2, does the FSAR Update need to be revised? Yes ☐ No ☒

If "Yes", submit an FSAR Update Change Request in accordance with XI3.ID2 (or if this is an LAR, process in accordance with WG-9)

Commitment #1 None

Statement of Commitment: None.

Clarification.

Tracking Document:	AR or NCR A0661051	AE or ACT A01
Assigned To:	NAME Don Malone	ORGANIZATION CODE PTRB
Commitment Type:	FIRM OR TARGET Firm	DUE DATE: 05/01/2006
Outage Commitment?	YES OR NO No	IF YES, WHICH? (E.G., 2R9, 1R10, ETC.)
PCD Commitment?	YES OR NO No	IF YES, LIST THE IMPLEMENTING DOCUMENTS (IF KNOWN)
Duplicate of New NCR Commitment in PCD?	YES OR NO	IF YES, LIST PCD NUMBER (e.g., T35905, etc.)
Old PCD Commitment being changed?	YES OR NO	IF YES, LIST PCD NUMBER, AND CLARIFY TO CLERICAL HOW COMMITMENT TO BE REVISED